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AND

## GARDENER'S MAGAZINE.

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ART. I.— *A Descriptive Account of the Origin, Culture, Progress and Productiveness of the celebrated Black Hamburgh Grape Vine, Hampton Court, England.* By EDWARD SAYERS, formerly an apprentice in the Gardens.

PERHAPS there are few individual plants in the vegetable kingdom more generally known from record, and that have been the grandparent, as it were, to so useful and numerous a progeny, as the celebrated *vine* about to be described. For although it is pretty certain its first *origin* was from Hamburgh, from which it derives the name Black Hamburgh Grape; certain it is, that most of the grape vines so named now extant, can be traced in their first progeny to the old parent vine at Hampton Court.

From the account given to me by the head gardener, Wm. Padley, Esq., in the year 1824, while thinning the fruit, it appears that the vine, if now alive, is over 70 years of age. For at that time Mr P. informed me it was sixty years of age and had been under his inspection with the same mode of culture upwards of 40 years; and the fact was farther corroborated by an old man, Henry Taylor, 80 years of age, who was educated and worked in the gardens all his life time; he also affirmed the fact, of planting the vine in the place where it then stood, with his father.

Mr Padley observed, it had always been a remarkably healthy vine, and a very great favorite with George the Third, who, during his later years, made it a practice always to see the vine in full

fruit and vigor, before any grapes were cut from it, yearly. But, George the Fourth seems to have been more fond of the juice of the grapes than the beauty of the vine, for he seldom or ever visited it or the gardens, although from them his dessert was principally furnished, and he was certainly one of the greatest critics and connoisseurs of fruit of his day.

The first *origin* of the vine, says Mr Padley, was from Hamburgh about 60 years ago; four cuttings were sent under the name of Black Hamburgh to his majesty George the Third, but two only were made to vegetate, one of which was sent to Cumberland Lodge, and the other retained and planted in the place where it now grows. He continues, "The house was then a small pine-stove used for succession pines, but in consequence of the vine making such rapid growth and the fruit being of a superior quality, it was entirely appropriated to its growth, which soon covered the whole of the roof, and it was therefore deemed requisite to enlarge it, to allow the plant to grow to its full extent; which, however, was not found sufficiently large and it was again enlarged to the present size.* He further remarked that the extraordinary growth and size of the vine, has been the cause of many erroneous ideas among gardeners *relative* to the probable cause of its large growth, as there never had been any border or preparation made purposely for it: many suggested that its fibrous roots had perhaps found their way to the margin of the Thames (which was probably about 115 feet from the base of the main stem;) this was however controverted by the *fact* that one of the roots of a considerable size was found traversing some distance up a dead drain, that was opened for the purpose of being cleaned: but from the probability that the vine received much of its sustenance from that source, it was allowed to remain untouched. The vine being placed in that part of the garden where much of this kind of nutriment could be obtained, it is very probable that its chief support was obtained this way.

The method of pruning then, and, as it appeared, always before, was that which is strictly called the spurring system; and the manner of training or framing the vine, was by leading three main shoots from the north corner of the front of the house (where the vine is planted) along the front to the south end, where they were turned

* 75 feet long, 17 wide, with an elevation of about 45°.

and brought round to the back part of it, and returned about half way back; therefore the extreme point of the main shoots was over one hundred and twenty feet from the roots. From the main shoots laterals were trained across the house, and made to meet in such a manner that the roof was entirely covered.

The method followed in the culture of the vine, was to winter prune it in the month of February; and to keep it as late as possible before it vegetated or *broke*, when it had the usual treatment given to vines in such situations; until the flowering commenced, when a little *fire* was used to *set* the blossom; after this period no fire was used during the growth of the fruit; but, in the fall, when the grapes were ripe, a little fire was used to keep out the damp. The fruit was allowed to hang on the vine until the latter end of January, when it was cut, and the same process was followed for many years.

The management of the vine was under three different persons, during my time in the gardens: Mr Groves, the foreman of the melon ground, had winter pruned it twenty years; Mr William Sorford, who superintended the private gardens, had the management of it, as regards giving air to the house, twenty years or more. The person who had the charge of the second houses in the melon ground, summer dressed it, thinned the grapes, and attended to heating the house, &c. The general produce of the vine was supposed to be about sixteen hundred pounds weight of grapes a year, as the bunches were generally thinned to about that number, which were estimated at a pound weight each. In the year 1818, in order to try the probable weight of grapes which the vine would bear, 2,200 bunches were left on, which were calculated, perhaps not unjustly, to be one *ton*, or twenty hundred weight of grapes.

The Black Hamburgh Grape may be said to be excelled by none as a fruit of the first order in flavor, and its excellent appearance as a dessert renders it equally applicable as a handsome fruit. To this may be added, it is, when well managed, an almost certain bearer; and to further assert these facts, it may be said that half the grapes cultivated under glass in Great Britain and America, are the Black Hamburgh.

It is a singular fact, and rather to be regretted, that such authors as Loudon and his followers should designate this grape as the "Red Hamburgh," when it is, when well ripened, a *jet* black, and is as properly named as it possibly can be under the name of Black Ham-

burgh. But there is a singularity in this vine, which is not perhaps seen in any other kind, which is, that the whole produce of fruit on a vine, in a damp season of its ripening, is *red;* and on the contrary, if a fine sunny season, it ripens a *jet* black. And hence a common saying among the gardeners at Hampton Court, of a damp humid season, that "the old vine would produce *red* Hamburghs that year." The fact is, that this fruit, like many other kinds, rarely ripens well without the influence of *sun* and *air;* and many instances of the above mentioned may be quoted in this country, in different parts, of the *true* black Hamburgh *vine* ripening its fruit of a *red* color.

From the manner of treatment of this vine and many large ones, as that of Cumberland Lodge, managed by spurring, we may draw an inference that it is the most correct system, as, certain it is, that the heaviest crops of grapes from the spaces covered have been obtained under that method; and although many fine crops of this grape have been grown from the caning system, it is very doubtful, if a *fair* trial was given to two separate houses of the same dimensions for a number of years, if any system, either known or that could be projected, would answer so good a purpose as that of *spurring*, and allowing a vine to extend its branches so far as its nature requires, without exhausting its strength and constitution into a feeble habit, by overbearing it, when in a young state; (a system often adopted, and the cause of many fine houses of grapes being crippled in their infant state.) The coiling, caning, and Thomeroy systems have their respective merits, where produce and local circumstance predominate; but where space and time are in unison with a well matured soil for vines to root into, and other circumstances congenial to the full development of the vine, I think the spurring sytem will be found the most profitable where houses are to be established for a number of years.

It may be laid down as a general *law* in the vegetable kingdom, that every plant or tree, to come to its proper size and yield its best and greatest produce, should be allowed to extend to its proper growth without being curtailed by any artificial means; and it will be found in the grape as in all other kinds of fruits, that whenever the free born limbs of nature are cramped or curtailed either to hasten or confine fructification into a contracted space, that the natural *habit* and *vigor* of such plants are in a measure retarded and suspended from that habitual character they would otherwise attain.

It is also a fact well known, that the vegetable kingdom like the animal, in renewing its progeny from one family to another, assumes a different force of natural *habit*, as regards a more or less vigorous stature, health and general feature; hence the oak spreads its acorns around at the same time, season, soil and location; but the young plant arising therefrom, in course of years, with the same favorable situation, assume a different size and healthy appearance. And the same thing happens in all kinds and families of trees and vegetables.

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ART. II.—*Remarks on the Culture of the Tree Rose.* By ROSA.

THE increasing number of splendid varieties of the much esteemed family of Roses, and their admission into every flower garden, and pleasure ground, being a desideratum, induces me again to resume the subject of their culture as standards. During the present summer I have been much struck with the increasing taste for their culture on lawns, and to exhibit their splendid heads in the centre of a flower bed, or back part of a border.

In remarking on the growth of a tree rose, I must observe that the rings round the bottom of both stem and branches are the depositaries of a dormant bud, which will not be called into action unless the buds above be injured, or unless the sap arise so profusely as to be unable to expend itself by the upper parts, in which case the buds below break out; though, indeed, they will occasionally do so, as the natural act of the tree in preference to rising higher. This is more observable in the wild rose than almost any other plant, and perhaps may, in some degree, explain the reason why budded roses are shorter lived than those on their own bottom; for any one who has at all observed the growth of wild stocks, must have noticed that the original head is seen generally on hedges in much worse plight than the shoots which have been subsequently formed at its base. This tendency of the dog-rose to break out below, must be checked in two ways; the first, by destroying every sucker and shoot as it starts, and the second, by finding full work for the sap above, and by giving it a free passage.

If then, in cutting the top of a tree at pruning time, you leave a

couple of buds on every shoot of last year's growth, or three at most upon a very strong one, there will be quite enough to occupy the sap, keep the tree within bounds, make it much handsomer, save the sap the expense of maintaining old wood, and give it a free course. If there be more sap than enough, a fresh shoot will likely enough start from the crown of the graft, or the rings upon the first year's shoot, and increase the head of the tree, as well as bring you back with new wood nearer home—a matter always desirable as tending to keep the head from straggling.

Cutting to the lowest buds always leaves the sap with but a short channel to pass through, strengthens the branch below the buds, and is every way beneficial, if care be taken that a sufficiency be left to occupy the sap.

If the tree be not pruned at all, it will lose its shape entirely in a single year, afford little or no bloom the next, and eventually straggle to death.

Trimming the shoots has nothing essentially different in the manner of execution to trimming the stock; in trimming to a bud, barely the thickness of a sixpence should be left above the bud, and the excision should form a slant about equal to that caused by dividing a square from angle to angle: if more were left above the bud, it would die down to the bud, and prevent the bark from healing over the wound; in general, the line of the bud is the slant the knife should make in its passage through the shoot.

Cutting out old wood should always take place where it can; the desirable point being to keep near home, as it is called; when, therefore, your tree throws out a fresh and vigorous shoot, close to the base of an old branch which has straggled too far from the graft, cut out the old wood in March, close to its base, leaving the young shoot to supply its place, and receive its nourishment. This principle well applied, will always keep the trees in bounds; but as this requires judgment, and cannot well be explained in writing, take a lesson upon the subject, the first convenient opportunity, from a scientific gardener.

A tree well formed, with a promising head, and in health, ought, the spring succeeding the budding, to have a clean straight stem, no lumps or knots, one shoot quite at the summit, and two, or at all events, one other shoot as near as possible also to the top; if there are two shoots only, at opposite sides to each other; if three, form-

ing a triangle, if more as nearly equidistant from each other, in the diameter of the stock as possible, (and here be it observed, that the more shoots, at the top of the tree, the handsomer and quicker is the head formed,) each with a bud inserted in it, close to the stem: and at the cross cut, where the bark of the bud usurps the place of the original bark of the stock, a sufficiency of sap ought to have exuded, not only to have joined the bark of the bud with the unmoved part of the bark above it, but also to have joined the separated part of the bark of the stock to the same place, and thus linked the two barks of bud and stock to the single bark of the stock above them.

The edges of the vertical slit in the bark do not heal by attaching themselves to each other, but the bark of the bud underneath them forms a connecting link, and the edges above mentioned perish insensibly away, leaving little or no scar behind. The second spring, the tree becomes more perfect, the extraneous parts of the stock, if any remain, are cut off, as well as those of the shoots, and the head so arranged as to throw its buds where they are wanted to make it round, even, and handsome. If, however some shoot be obstinately bent on growing in any direction, spoiling the appearance, and crossing the others, by no means remove it on that account alone, but place a little twig across from it to any other convenient branch, and confine it for the season as you wish it to be, removing the ligature in the succeeding spring, or even in the same autumn when the sap is down.

Lastly, the third spring the tree should show itself with all its wounds nearly closed, its buds strong, full, and healthy, and it should look perfectly natural, those parts of the shoots upon which the buds were placed more incorporated with the stock. The bark clean, no dead wood; and wherever a shoot has been shortened, the place so grown over as to leave no dis-sight, which will be the case for some time wherever any wood more than one season old is cut away, and a thin shoot of a single year springs at the end of it. This is the reason why forest trees look so ill when shortened as old ones, viz. that the taper appearance is destroyed, and wood of five or six years' growth is continued by the shoot of a single spring, and thus a piece of wood, of the diameter of half a dozen inches, has a little mean looking shoot, or in all probability half a dozen, not thicker than horsewhips, at the end of it.

Whatever it is worth while to do, it is worth while to do well, work properly commenced does not require that constant superintendence which a bad beginning is certain to render necessary, and which eventually involves a much greater expenditure of time than any labor bestowed at the outset could have demanded.

Having thus brought our subject to a close, as to the operative part, in preparing and perfecting the tree, it may not be amiss to spend a few moments in the consideration of the effect expected to be produced by it when planted out.

There are three causes of beauty in a tree, shape, foliage, and flowers. Shape (to a certain degree) we artificially gain, foliage and flowers must depend upon the sort; the foliage is the more permanent, the flower the more striking. Planting out, then, must depend entirely upon the effect desired, and the taste of the party planting, as to variety of foliage, height, flower, its color and continuity; a tree with rambling shoots suits one place, and with a cauliflower head another. The tree roses never look well in a round clump; they must have a single appearance, or be in some sort of line.

If your roses are to look, when finished, like a sloping bank, plant your heights in succession, viz. each under each; but if they are to have a less forced and regular appearance, and a more single and light look, leave out an intermediate height, as thus: a two feet front of a three feet, &c.

Be it observed, that a three to four foot standard is most in keeping with the head it carries, and being nearer the ground, has a very natural and steady effect, and in confined places, it is unquestionably best in its appearance; but if the tree is to be distant from the eye, or the shrubbery, or the walk be large and increasing in distance, a four foot standard is certainly more distinguishable, and has a much greater effect.

A foot standard is of little or no use, except it be intended to approach the edge of a border, or is grafted for the convenience of affording nosegays or increasing the quantity of the plant placed upon it.

The heights most in use having been shown, it may be remarked, that for a weeping rose to stand singly, (perhaps surrounded with a wire guard and creepers upon it to have a more marked effect,) you cannot find a stem too high, if it be proportionally strong.

A fine plant of this sort, six, seven, or even eight feet high, budded with a noisette, or boursalt, looks beautiful, and its long free branches, covered with clusters of roses, have a wild and luxuriant appearance, which give a distinct character to a tree budded in this way.

Thus having arranged where the plants are to be, and having made the earth good all around, stake up each tree with a neat, clean hazel stake, (unless the stock be so strong as not to require it,) saw off the top level with the top of the wild stem exactly, a matter that conveys a great air of neatness, and with a piece of bass, or better a small strip of pitched rope, attach your tree to the stake.—*Harrison's Floricultural Cabinet.*

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## Art. III.—*On Laying out Gardens and Ornamental Plantations.* By Edward Sayers.

### On planting ornamental trees to protect buildings and to give effect to landscape scenery.

The planting of ornamental trees may be considered under different heads as really useful, by giving an additional value to property, convenient as relates to domestic comforts, and adding a feature to landscape scenery of the most prepossessing nature.

Without taking into consideration the value of forest trees, as regards the several uses they are applied to as timber, (which will undoubtedly increase as the towns and cities on the seaboard increase in population; and whilst the *axe* continues to diminish the timber forest of the country,) the planting of ornamental forest trees is really useful as relates to the domestic comforts of the inmates of dwellings, that are protected and ornamented by them; by affording shade in the summer and protecting the building from the cold blast of winter. Ornamental plantations of this kind also give a mellow and finished cast to the surrounding scenery, and impress the traveller with an idea of the additional value of property, arising from an enterprising and intelligent community. And although much has been and is yearly doing, as the seasons roll on, in every section of this country in the improvement of ornamental plantations, there are

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### ON PLANTING ORNAMENTAL TREES TO PROTECT BUILDINGS AND TO GIVE EFFECT TO LANDSCAPE SCENERY.

The planting of ornamental trees may be considered under different heads as really useful, by giving an additional value to property, convenient as relates to domestic comforts, and adding a feature to landscape scenery of the most prepossessing nature.

Without taking into consideration the value of forest trees, as regards the several uses they are applied to as timber, (which will undoubtedly increase as the towns and cities on the seaboard increase in population; and whilst the *axe* continues to diminish the timber forest of the country,) the planting of ornamental forest trees is really useful as relates to the domestic comforts of the inmates of dwellings, that are protected and ornamented by them; by affording shade in the summer and protecting the building from the cold blast of winter. Ornamental plantations of this kind also give a mellow and finished cast to the surrounding scenery, and impress the traveller with an idea of the additional value of property, arising from an enterprising and intelligent community. And although much has been and is yearly doing, as the seasons roll on, in every section of this country in the improvement of ornamental plantations, there are

two considerations which seem to leave much to be done in that interesting subject: namely, the former idea of laying bare certain districts by cutting down almost every forest tree; and the rapid growth of enterprize and commercial wealth being the cause of numerous dwellings of the first order to be built in the vicinity of cities in rapid progression within these few years, in situations which can only be ornamented with trees by a progressive culture which depends much on management.

The principal object of this kind of planting being that of real utility, blended with a picturesque effect, a certain knowledge of the different trees to be used is requisite to obtain the desired purpose; as that of their *port* or habit, natural locations, the soil and favorite situations in which they thrive and form into the most beautiful structure and foliage. Having ascertained these prerequisites, which can easily be done by any intelligent observer taking the trouble to make a general survey of the trees growing in the neighborhood in which he intends to plant,—when their healthy or meagre habits may be practically ascertained in a more correct manner than any theoretical essay can be given by the *pen*,—the next thing to be considered is the soil and location of the ground to be ornamented, which should be in accordance with that of the most thrifty trees in their natural sites or place of growth. For let it be recollected, that the most beautiful kind of trees when assuming a sickly appearance greatly depreciate the good effect of ornamental plantations of this kind—whilst, on the other hand, those of less beauty, when in a healthy condition, perhaps serve to make a fine contrast in the general group. There is some taste also required in the arrangement or planting the ground, which must be kept in view with the natural habit of the trees before examined; which should be grown to their natural magnitude, so that some idea can be formed of the future appearance of the improvement about to be made, as well as the first planting or present appearance.

Having ascertained the nature of the soil and location intended to be planted, and made a selection of such trees as seem to be suitable to the intended object, the next thing to be attended to is that of planting them in their proper places, where they can thrive and have a free, easy and useful appearance. In effecting this part of the business, the most exposed situations at the north and northwest quarters should be planted in a neat and economical manner.

If a building is to be ornamented, the first consideration is in planting on the north and northwest quarter to break off the cold winds and protect it from storms and the like accidental causes that may happen. All kinds of unsightly objects that are in view should be concealed, and the whole group should have a fine picturesque effect at a distant view. This may be accomplished by a little attention to the before named requisites.

Whilst on the subject of ornamental plantations, I cannot refrain from making some remarks on the great neglect of a subject that is so apparently *the very nerve of useful improvement* in almost every country, and more especially in this where shelter and shade are accomplished by no other means in so advantageous a manner as by the presence of ornamental trees. The neglect of planting appears to be in a measure owing to the too general idea of a speedy return for money expended on general improvements; but it must be recollected that every person who plants in this manner is almost certain to realize his first cost by the additional *appearance given to his property* which stamps a value as it were in the same manner, as if the trees were useful for the purpose of timber. There is also a kind of social effect given to the traveller when he passes through a country where buildings of this kind are ornamented by the presence of trees intended to give shelter and shade; and indeed I know not of any legacy that can be committed from the father to the son, of a more useful and affectionate nature, than a fine grove of trees planted and reared by a careful and diligent hand. If such useful records were to be handed down from one generation to another, the bleak barrenness of landscape scenery, which is now in many places apparent, would be transformed into pleasing groups of ornamental plantations that indicate social comfort and real *meaning*.

[To be continued.]

## Art. IV.—*On Raising Carnations and Picotees from Seed.*

By an Old Florist.

The culture of the Carnation, though elaborately written upon by many with ability and experience, has in one point, and that a very material one, been either totally neglected or slightly or discouragingly mentioned, I mean the progressive improvement of the flower and its subvariety, the Picotee, by raising new plants from seed. Hitherto we have been taught that the production of new and fine varieties of either Carnation or Picotee, is an extremely difficult and even arduous undertaking—the proportion being from one to two good flowers to one hundred inferior and worthless plants. With this I perfectly agree, provided that the ordinary mode of obtaining the seed be pursued. We are told that it is a plant that never produces seed in considerable quantity, nor even any at all, unless in very dry and warm summers and under peculiar treatment, and even then with difficulty, arising as it is stated "from the extreme doubleness of the flower," a mistake originating either from ignorance of the natural structure of the flower and its physiology, or from want of sufficient experience in the writer. The Carnation is one of nature's most brilliant offerings to the flower garden, and although almost universally cultivated and admired for the symmetry and fine coloring of its blossoms, and for its delicate and grateful perfume, it is rarely seen in its fine varieties, some of which are really splendid and admirable, eclipsing all the flowers of its season, and making it as the pre-eminent ornament of the summer, as the Dahlia is of the autumnal months.

The scarcity of those fine flowers arises from two causes—first, from the jealousy of the few florists possessing them, who think them worthy of being exhibited and distributed to the initiated only; and secondly, from the neglect of raising plants from the seed of the best flowers, and from such only. Any florist who has sufficient energy and who wishes to derive more gratification from the culture of his Carnations, than he has yet enjoyed, may, by attending to the following directions obtain ample amusement and an abundant repayment for his time and trouble, in the production of many valuable and magnificent new flowers.

It is true that nearly all the blossoms of Double Carnations, if

unaided by the hand of the gardener, will be unproductive of seed, but they are in very many cases capable of being made fertile. The organs of reproduction are in almost every instance fully developed, from the crowded state of the petals the operations of nature for production are defeated.

Every gardener and florist should know that plants are analogous to animals in their power of multiplying their kind, and require the co-operation of the sexes. In the Carnation, though ever so double, the male part of the flower or stamen is generally found, as is also the pietil of the female portion, together with the ovary, containing the embryo seeds, which may be observed by examining the blossoms of any double Carnations. The sexual distinctions are most easily distinguished. The florist, to be successful in obtaining seed, has but to imitate nature, and by rendering his double flower as similar as possible to the single one facilitate her operations. This is done by extracting with a double pointed scissors the supernumerary petals, leaving only the outer guard leaves, taking care, however, not to injure the stamens or ovarium. This should be done before the anthers burst and shed their pollen, in order that the petals may not prevent its falling on, and being received by the stigmas, which is the usual cause of abortion in the double blossoms of the Carnation; or the florist, if he pleases, may cut away the stamens, and apply the pollen of some other admired variety to the stigmas of the flower, thus deprived of its male organs, and so fertilize the embryo seed, which is the most advantageous way of proceeding, as the variety among the seedling plants will be more marked and beautiful; and curious to say, more like the father plant, or that from which the fertilizing pollen was taken, than the mother parent, or that which produced the seed. Semi-double flowers are more easily managed this way, and may be made fruitful with the pollen of your best double flowers. The production of flowers is often effected through the instrumentality of bees and other insects, when collecting either honey or pollen from the flowers; in such cases the seed is frequently lost by neglecting to protect the blossoms from too much wet, and to extract the decaying petals, quickly lose their beauty and brilliant coloring, and being no longer needed, wither and die; they should then be cut away, lest by retaining moisture, they should communicate disease to the base of the ovarium (where the petals had been attached) which

is of a spongy and light structure, and very liable to rot, if not preserved in a dry state. The stems should now be loosed from the stakes to which they were fastened, and the plants given as much air as possible. When the pericarpium has attained to half its size, it will be necessary to remove as much of the calyx or cup that contained the flower as can be done without injuring the seed-pods. The plants will now need little further care until the maturing of the seed, when they must be carefully looked over every day, lest the pods should burst and loose their seed. When ripe, the pods should be carefully gathered and preserved unopened, until the following May, which is the most proper time for sowing, or the seeds extracted may be preserved in small well corked bottles, which is the mode usually adopted.

It has been stated, that layering Carnations prevents their flowering as well as if it had not been done, and also prevents their producing seed. This I have found is not the case, if the plants are layered sufficiently early, the bloom will be stronger, and without doubt they will give more seed in consequence of the increased resources of the plant, each layer becoming rooted, and enabled to support itself, as well as contribute to the strength of the parent plant: they ought not, however, to be detached until the seed is gathered, else a failure of your crop will be the consequence. The seeds that have ripened in the early part of the season may be sown as soon as gathered, in a sheltered part of the garden, and the young plants placed out on a well manured south border, where (with slight protection during the very severe weather of winter) they will become strong blooming plants for the ensuing summer, thus gaining a year, as by the usual culture of the plants never show their flowers until the second year from sowing. The late saved seed is to be sown, and the plants treated in the usual way. This process may seem a little troublesome, but it is really not so; and the gratification arising from the production of very many beautiful flowers, will, I am sure, amply repay the person who pursues it. —*Floricultural Cabinet.*

## Art. V.—*The Vine.*

[The following article, from one of the most scientific and successful cultivators of the Vine in the West, N. Longworth, will be read with profit by all those who feel an interest in this subject. We copy from the Cincinnati Republican.]

The vintage this season has been later than usual, and the produce not abundant. Early in the season the vines promised as well as I have ever seen them, but our season has been unusually cool and wet, and one half our grapes dropped in the early part of it. My crop will fall a few barrels short of one hundred, but the quality promises to be good. From my own experience I should discard the old doctrine, of allowing the grapes to shrivel before gathering, and coincide with recent French writers, who are of opinion that more is lost in the aroma, than is gained in the saccharine principle. The more so, as the latter can always be supplied, and equally good with that obtained by the shrivelling of the fruit. Decidedly the finest grapes of the season, was a small vineyard of half an acre, the property of Mr Jacob Resor.

This vineyard is on the Ohio river, four miles below the city, on the side of the hill, fully exposed to the south. This is the first year of their bearing, and the fourth season since planting. His superior success this season is principally owing to their being young vines, and the ground dry. In dry, warm seasons, even a north exposure will yield better. Heretofore we have planted no vine nearer than five feet from plant to plant each way; his are planted three by four. His grapes are the Catawba, Isabella, and Cape, (Schuylkill Muscadel.) The product of his half acre was twentyfive barrels of wine, of thirty gallons per barrel, being thirteen hundred and twenty gallons to the acre. In a recent work on the manufacture of wine, by Bussby, he states that Mr Ruinart of Champaigne, one of the largest proprietors of vines in that region, informed him, that the largest yield with them was eleven hundred gallons per acre; yet his vines were only eight or nine inches apart one way and six or seven inches the other.

The vine with us is less subject to injury than in any part of France or Germany, in which the best wines are made. They also complain of the wines becoming acid and ropy, neither of which evils have I met with in my wines. I have discontinued the cultivation of the Isabella entirely. I have made a wine from the Ca-

tawba equal, and I believe superior to the best wines of the Rhine; but it ferments unequally, and I can never tell what the quality of my wine will be till spring. In one instance, last fall, I drew two barrels from the cask in which the grapes had been mashed at the same time, and placed them side by side in the wine cellar. The one was a brandy barrel, the other a wine barrel; the former appeared to be in a state of fermentation the whole winter, was dry and not fine when racked last spring. The latter never fermented, was clear as amber, rich and sweet as the moment it was drawn from the cask. I bottled it, and it now has all the fixed air of champaigne, but I have kept it in an ante-room attached to my ice house, or it would have burst the bottles. The same is true of the wines of Xerxes in Spain, till the fermentation is over, it is not known whether the wine will prove to be Sherry or Amontillado.

I am cultivating some new native varieties of grape, that are entirely free from the hard pulp generally prevalent in our native grapes, and for the table quite equal to the foreign grape; I have not yet tested the quality of all of them for wine. I have one variety, resembling the Noiren of Burgundy, that promises to make a superior wine, both red and white, but its produce will be comparatively small. The most celebrated of the Madeira wine merchants was recently in our city, when a bottle of these wines (red and white) was set before him, together with two bottles of Madeira, very old, of my own importing, red [Tinto] and white. No intimation was given that either was domestic, but a gentleman at the table requested him to select the best; he decided in favor of the domestic. The domestic wines were new, and I cannot say that I coincided with him in opinion, but I have known others, much better judges than myself, agree with him. The Cape always makes a fair wine, and should have brandy added in the spring,—it is usual in all Madeira wines. It greatly improves by age, and resembles Madeira. At Vevay, this grape is always fermented in the skin, and a red wine made from it, which in my opinion is inferior to the white. The day is not far distant, when the banks of the Ohio will rival the rivers of France and Germany, in the quantity and quality of their wines. But after an experience of twentyfive years, and a waste of time and money in the cultivation of a great variety of foreign grapes, they confine themselves to American varieties, and the producing of new varieties from their seed.

*Cincinnati, Oct. 20th*, 1837.

## Art. VI.—*The City Green-House.*

There are but few appendages to the city residence that are of a more inviting and useful nature and add more to the social comforts of its inmates, than a well stocked green-house, that at once presents a pleasing and amusing variety, and is congenial to the most refined observer. For while winter envelopes, as it were, the native *flora* around in a mantle of *white*, and the flowers of the forest repose until the return of a more propitious season, the green-house presents a pleasing variety of floral riches, in the most happy manner, that are natives of the different parts of the globe; for in the mingled group we discover congeners from different countries growing in unison with one another under the same temperature and general management,—some of which are recognized as the type of the different kinds of plants that form a capital *item* in the commerce of nations; others are merely ornaments of nature's *flora*, and present some of the most finished cast of her floral architecture, with the nicest tinges of her pencil; while the whole assemblage is finely contrasted with the variegated colors and shades of the different foliage that gives a fine finish to the picture. In the mingled group is seen that *pet* plant of commerce, the *tea tree* of China, growing in company with the modest primrose of Britain; and the golden orange of Europe waves its pendant branches over the white camellia of Japan. The numerous tribe of *Erica*, from the cape of Good Hope, also appear as prominent characters in the general assemblage, by presenting their *neat and various tinselled little bells*, which give new features to the whole as the winter passes on; and the various tribe of the *Acacia*, with its golden wreaths, lend a variation as the spring advances, when the rose and the geranium engross the attention of every visiter by their inviting appearance, and a numerous family of other pretty harbingers of pleasure are continually giving the most finished cast to the scene. And it is not the beauty of flowers in the green-house only that engages our admiration, but their regular structure and nicely finished parts, which bid defiance to all copiers to compare by any mechanical art; nor can the most accomplished artist *vie with the nice tinges of nature's pencil*, which are traced in many flowers in the most correct and regular manner. In most flowers there is also a regular number of parts, perhaps many

thousands of blossoms not varying one petal or part; of these it may be said one plant is a perpetual parent to another, in many cases for thousands of years, holding its primitive character in perfect unity with its first parent, and will *perhaps* to the end of time.

I know not of any thing in which the merchant or man of business can spend a few leisure hours more pleasantly, to unbend his mind from the cares of his avocations, than to view a beautiful collection of green-house plants, where it is impossible there can be any thing to *mar* his feelings or appear disagreeable. The temperature is also in accordance with our feelings, and we can therefore view the beauties before us without inconvenience. Nothing here can taint the morals of the most refined observer; and to the younger members of families many pleasing and useful features of the vegetable kingdom are imbibed, as botany, the utility of the different plants as relates to their domestic and medicinal properties, &c.; which in many cases is proved to be a useful compendium through our various walks in life, and ever brings to memory our infantile days of pleasure in the green-house. S.

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## Art. VII.—*Action of Frosts and Circulation in Plants.*

By W. G., (Otisco, N. Y.)

The cause of this circulation of the juices of plants, and the consequent results, is undoubtedly the same which is the cause of all motion in nature, caloric; though in which of its modifications, whether of pure heat, electricity, or magnetism, cannot as yet be possitively ascertained. Irritability of any kind, either in plants or animals, is impossible without the presence of caloric,—its total absence would be the precursor of universal death. Irritability never exists without a corresponding circulation of some kind, in animals of blood, in vegetables of the necessary sap. We have the most decided proof in the course of vegetation as the seasons progress, that here it is indispensable; and in the case of animals it is hardly less plain, that on caloric depends their motion and existence, For myself I have scarcely a doubt, that under God, the movement of the blood in our veins, and our consequent nutrition; the circulation of the juices of plants and their necessary growth; the point-

ing of the needle to the pole; the motions of the planets in the heavens; all crystallization and aggregation of particles, and most of the other varied and frequently deemed mysterious operations of nature, are owing to one and the same cause, which at present, for the sake of a better name, may be termed electro-magnetism. Every discovery in science, every new revealment of the mysteries of life, motion, and gravitation, point to this cause as the source of their mightiest energies. Art in some respects has already outdone nature, and by a concentration of this organizing vitalizing power of nature has produced effects which one short century since, would have been denominated as partaking of witchcraft, or wondered at as bordering on the miraculous. Processes in the growth of plants for which nature under the most favorable circumstances requires weeks, have by art been reduced to a few hours; and the organization of the animal has been forwarded as much in as many days, as nature could have effected in as many weeks. The more vigorous and active this electro-magnetic current is when connected with vitality, the more rapid will be the development of the plant or the animal; in the animal and by the ordinary processes of nature, food is the generating agent in this constant circulation; in the plant manure performs a part directed to the same end; and the generation of this powerful agent by the voltaic plates is scarcely more tangible, than it is by the proper admixture of two or three of the principal earths with moisture and vegetable or animal matter.

Wherever the flow of this electro-magnetic fluid is regular and constant, and according to the law of its nature, every thing moves on in health and harmony; whenever this course is interfered with, its flow interrupted, or its quantity abstracted, the most disastrous results will inevitably ensue; and these effects will be injurious exactly in proportion to the rapidity or violence of the cause that produces them. Any thing which should cause or force the sap of the wood to retrograde, would, for the reasons stated above, cause the death of the tree or plant in which such a movement should occur. This fact is exemplified in the case of lightning. If the fluid penetrates the tree, and follows the *wood* from the top downwards, it is evident the current of the juices must be violently reversed, and experience shows that instantaneous death is usually the consequence. On the contrary, if the electric fluid glides over the bark

as it were, without penetrating the wood, the natural course of the descending sap is followed, and the injury is rarely more than superficial. Indeed in some cases such an event has proved of decided advantage to the tree, greatly increasing the rapidity of its growth; of which a striking instance was given in the French scientific journals of the last year. In the first instance, the electro-magnetic current is reversed, or destroyed, and the circulation of the sap so far as this reversal extends will of course cease; in the last instance such an effect is not produced on the ascending fluids, and of consequence no injury is done. Ordinary magnetism furnishes many things analagous to this. A heavy discharge from an electrical battery, a flash of lightning, or a heavy blow with a hammer, directed in a contrary direction to the established flow of magnetic influence, will destroy the attractive force of the magnet or the needle, until their energies are restored by a new current in the usual manner.

The expansion of the juices of plants by their freezing, or the rapid abstraction of caloric, produces the retroversion of the magnetic current, and of course the circulation of the juices, as effectually as does their expansion by the sudden elevation of their temperature during the passage of the electric fluid. In the case of the rush alluded to, it is evident the conversion of the water between the juices into ice, would by its expansive power force the fluid downwards, and rupture the vessels at once; and the same effect is produced in the extremities of the branches, or tender twigs of young trees. The more recent the growth, the greater the liability to injury, and that from two causes;—the greater fluidity of the juices, which causes them to freeze sooner, than when by elaboration and evaporation they become more viscid, filled with resinous matter, and partially converted into woody substance as it were; and because in a recent growth, the parts have less adhesion, as is evidenced by their partial transparency, and are consequently more easily ruptured and separated by the agency of compression.

All living plants and trees are several degrees warmer at all times of the year, with the exception perhaps of the warmest part of the summer, than unorganized or dead matter; and this vital heat greatly assists them in resisting the action of frost; still in our severe winters and violently freezing weather, all recently formed wood is more or less liable to be killed. Of this fact, the tops of

our native beech forests, or avenues of locust and mulberry, our nurseries of peach, cherry and other less hardy fruit trees, bear too conclusive testimony. All parts of our northen states where deep vallies or water courses extend north and south to a considerable distance, are more exposed to suffer from frost than more elevated tracts, or even our hilly regions. Of this the vallies of the Hudson and Connecticut furnish striking instances, the cultivation of fruit trees in both these sections of the country being more uncertain and difficult than in the elevated sections on either side of them. Since observations have been more multiplied, it has been ascertained that in all deep vallies, whatever may be their direction, have a greater degree of cold than the bordering hills, a fact contrary to the commonly received opinions on the subject, though perfectly philosophical, since it is clear that cold air being the heaviest must of necessity fill the vallies and decrease the temperature of such places. When the ground is clear of snow a contrary effect takes place, and owing to the radiation of heat vallies are always warmest. The basin of the great lakes furnishes perhaps the best fruit country in the United States, yet here the deep vallies that stretch into the high lands to the south, and open to the north, are more liable to have trees such as peach, apricot and mulberry, injured in our winters, than on the ranges of hills that border them. Many varieties of trees and shrubs that cannot endure the winters of Albany and Northampton, flourish unhurt at Rochester, and on the south of the Ontario generally. The greatest degrees of cold we have noticed for the past two years have been recorded in the vallies of Schoharie, Lebanon, and Franconia; and during the last winter the thermometer sunk from three to five degrees lower, on the Seneca level of West New York, than it did at an elevation of from seven to ten hundred feet, some fifteen miles to the south.

But whatever may be the nature of the current which impels the sap through the pores of the wood, or the trunks of vegetables, or enables it to maintain its elevation at the greatest height to which it ascends; and however fatal a sudden and violent reversion of this current must be, it is evident the obstacle is one which nature can surmount, when permitted freedom of operation and time for action. There is a beautiful illustration of this capacity of trees to accommodate themselves to their situation, in a range of willows in the gardens of Kew, near London. In planting these trees the natural

position of the trees was reversed, the tops properly trimmed being placed in the ground, and the roots elevated into the air. They immediately vegetated, threw out fine tops, and the growth has been as rapid and vigorous, and the trees have continued as healthy, as if the order of nature had not been apparently infringed upon.

All observers of nature seem to be agreed that the death of plants, when such an event occurs prematurely, or the killing of the young and tender twigs of trees, in the fall of the year, is occasioned by the juices being arrested by frost, before by the regular processes of nature the vessels become hardened, or in the case of trees converted into wood; and the most effectual method of preventing such results, has become an object of much interest and inquiry. There are many kinds of trees and plants which it would be perfectly useless to attempt raising in our climate, such as the oranges, olives, dates, sugar cane, breadfruit, pine apple, and multitudes of others, and which are never attempted by the nurseryman or gardener: there are others, natives of a more genial climate than ours, which still in general will succeed with us, though requiring more care than is necessary in more favored regions, and the fruit after all being of inferior qualities. Such are all the varieties of the peach and apricot; all the varieties of the grape; some of the plums and the pears, and the finer kinds of melons; and it is to the improvement of the last class, and rendering their growth more certain, that the efforts of individuals in our latitudes are principally directed.

Experience has shown that all plants possess the power to a certain extent of accommodating themselves to the climate in which they are placed; a power which is of the greatest service in what is called the acclimation of plants. Failures may now and then occur, but in a succession of years they grow less frequent, and unless of the kind which from their tropical origin and growth, are perpetually excluded from our gardens and orchards, the plants and trees become more hardy and less liable to suffer from frost and the other vicissitudes of our seasons. This effect is produced in part by a gradually less rapid growth, and an earlier hardening of the new wood of each year's growth; and art by imitating nature in these respects, has added much to the certainty which in ordinary seasons attends the cultivation of the more delicate fruits. The twigs or branches of trees are destroyed in the fall of the year by freezing

before the wood hardens, and the same effect is produced in the spring by unseasonable frosts after the young leaves and shoots have put forth. Of this a striking instance occurred in the severe frosts and snow of May 1834, in which the young shoots of the beech and butternut and other forest trees which had shot forth to any extent were effectually killed, and from which they scarcely recovered during the summer. The flower buds of the peach tree are sometimes killed in the winter, by being prematurely swelled, the only instance of this kind that occurs among our fruit trees; for though the flower buds of others sometimes are injured, it is never until they are partially opened by the warmth of spring. Perhaps every one has seen the bark on the bodies of young and thrifty trees loosened in the spring, and drying up and coming off to a considerable extent in the course of the summer; not unfrequently causing the death of the tree. This starting of the bark is occasioned by sudden and severe frosts, after the circulation of the sap has proceeded to some extent, the expansion of the juices by frost cracking and starting the bark at once from the wood.

To prevent the killing of the buds or branches in the spring, any thing which shall retard their putting forth until the proper time has come will produce the desired effect. Lowering the temperature of the earth around the trees would do this, and we have seen the blossoming of the peach put back for a fortnight by treading snow firmly around the tree, and then covering this with a dense layer of swingling tow, or the coarse tow made by dressing flax. To prevent the formation of the tender shoots which are sure to suffer in the fall, it is necessary to check the flow of the sap which urges the growth, and that so seasonably as to give the new wood time to harden before it is touched by the frosts. This is done the most surely by planting trees liable to suffer in this way, in situations and soils, which while they are favorable to the tree, are not so rich as to force its growth in too late a period of the season. Trees which grow in a dry gravelly soil are less liable to injury than those growing in wet ones, and those in a dry *poor* soil nearly always escape. Preventing the circulation of the juices by twisting a cord or a wire around the stem or branches that admit of such a compression has been practised and recommended by some, the obstruction to be removed when the necessity for its application ceases. We have never seen this method tried; but the philosophy seems objection-

able, whatever the practice may be. At present the danger of trees being killed by frosts is felt the most in the peach and mulberry orchards or nurseries; and any method which shall secure these trees from frost will be hailed as a public benefit.—*Genesee Farmer.*

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## Art. VIII.—*Progression of Horticulture in the Vicinity of Boston.*

Under the impression that the *progressive* improvement of the various branches connected with *Horticulture*, are not at all times within the immediate observation and knowledge of the different readers of the *Register;* and that the principal object of the various subscribers and patrons to it, is, to make themselves familiarly acquainted with the general improvements and newly introduced varieties of choice plants, with the most approved methods of culture, so far as relates to a *mental* correspondence with Horticulture; I am induced to submit some interesting facts, that have come under my observation, in visiting several choice collections of plants in this vicinity. As they are drawn from sources, where I have reason to believe that the possessors are ever liberal *in* and *for* the furtherance of horticultural improvements, I hope they will be interesting. My object in making them known is, with a view not only to make Horticulture agreeable to those who are really in possession of the pleasure of seeing a fine collection of plants in their natural health and beauty; but to those persons who are in the habit of noticing the passing improvements, and culture as relates to gardening. Therefore, should my object meet the approbation of the patrons and readers of the Register, my earnest expectations will be fully answered in proceeding to my subject.

It would be useless in this place to make any comment on the rapid strides of improvement which Horticulture has made, within a few years, in the vicinity of Boston; it has been often described, and is beneficially felt by all classes of people. Indeed horticultural improvements are so much under the influence of those whose munificence and disposition have been of a character to cherish moral rectitude and domestic comfort, that their example has had a ten-

dency to induce some of every class to devote a portion of leisure to gardening : the result has been of the most happy nature ; and never were the different green-houses better furnished with a choicer collection, or in better health and condition, than at present.

November 20th. J. P. Cushing, Esq., Belmont place. I was agreeably entertained by Mr Haggerston, who took me through the several apartments in the houses, which contain a fine collection of plants in a healthy condition. The Conservatory, the collection of which is well chosen and arranged in a prettliy contrasted manner, has a most prepossessing appearance ; on the back-stage (which is a lofty semi-circular) is arranged a fine collection of large flowering plants of the *Rhododendron*, *Camellias*, *Azelias*, and select kinds of plants ; which is finely contrasted by a variety of *Crysanthemums*, showing their different hues of colors, which is finely relieved by the green foliage of the larger plants. The front stages are filled with *China roses*, of different varieties, and the smaller sized plants of the different kinds, many of which are in flower ; one side stage is appropriated to the *Cactus*, containing the choicest kinds, one of the prettiest, the *C. truncatus*, was finely in flower ; on the other stage, the *Erica* occupied the principal part, and a fine specimen, the *E. ardens*, was in flower ; many pretty varieties of *Oxalis* were also in flower, and the whole formed a charming group of 'Flora's riches.'

In the Hot House, a fine plant of the *Combretium purpureum*, which has been in flower some time, was in the greatest perfection, presenting a beautiful wreath of flowers several feet in length, which was prettily contrasted by the brilliant bractes of the *Poinsetti pulcherrimus ;* the *Melestromęa atromelia*, and the *Alamanda catharica*, a pretty new variety of stove plant of a fine orange color, and many other pretty things too numerous to name. In the Hot House a number of pine-apples have been cut from plants that were propagated early last spring, and those acquainted with the culture of the pine-apple well know that this is a short time to bring it to perfection. The succession plants for fruiting in the ensuing season, are in a fine and vigorous condition, and will, by present appearance, produce fine fruit next year.

It is much to be hoped that every success will attend the pine-apple, under the above cultivation ; as it is certainly one of the

noblest acquisitions to the Hot House, and forms one of the most prominent features on the table as a dessert.

20th. The Brighton Nurseries. Few nurseries are better supplied or managed than the Messrs Winships', who have neither spared time nor expense to make their collection complete and really useful.

It is much to be regretted that the Brighton nurseries have not been more generally noticed by Horticultural registers, as they certainly contain many things that would be beneficially communicated to the public through the medium of such journals, and the liberal disposition of the proprietors certainly has a just claim to every thing that can be done by such methods to forward their enterprising useful object in view. The arrangement of the different sections of the nurseries is of a systematic and regular order, and will most probably be improved under the strict and correct management of the intelligent foreman, Mr Story, whose capabilities are quite equal to the task, and being educated purposely on the p'ace, every thing connected with it is familiar to him, which is important in the nursery business. There are many things, which to describe would take much space, as the alphabetical flower-border, summer-seats, arbors, green-houses, and the like, which I shall, at some future period, more generally describe. In the green-house, I noticed many pretty things in flower, which I must defer to enumerate until a more favorable opportunity offers to speak more at large on the subject.

T. H. Perkins, Esq., Brooklyn. This fine establishment, under the superintendence of Mr Thomas Cowan, has long been celebrated for its extensive Vineries and Peach-houses, which are in fine condition and managed to a very excellent purpose. The houses consist of two ranges, upwards of three hundred feet in length each; the original is altogether appropriated to the Peach and Grape, which, when in fruit, forms a most beautiful effect; the back part of it being in the fruiting season covered with fine crops of peaches and nectarines, and the rafters bearing a fine crop of grapes. The other range, which is more modern, is of the same length, (but much larger in dimensions,) and is divided into five parts or houses; the centre one is a fine conservatory of extensive dimensions, and contains a good collection of green-house plants, especially the *Camellia*, of which there is a great variety,

in a very healthy, vigorous state, many of which are showing flowers; here are also some of the finest specimens of *Azalia indica*, of the different varieties, in flower, and a very pretty show of *Chrysanthemum;* indeed the collection is altogether of the best kinds of plants. Two houses at the end are appropriated to the culture of the Grape, as is the conservatory after the plants are taken from the house,—the two other houses at the end are entirely appropriated to the Peach; the back trellis is trained after the *fan* system, and the trees are in a healthy and vigorous condition, and are excelled by none in symmetry and regular training;* in the front the trees are trained under the rafters, by being divided in three parts, in such a manner that the back and under trellis, have free access to sun and air; to these may be added a new house, of a capital construction, intended wholly for the cultivation of choice vegetables and fruits, as strawberries, cucumbers, &c.

J. Lemist, Esq., Roxbury. One of the longest established green-houses of sale in the neighborhood of Boston, under the care of Mr Thomas Hutcheson, containing a fine collection of rare plants, particularly the *Erica* and *Acacia*, of which there are many fine varieties, as the *Erica splendens*, *E. arborea*, *E. cruenta*, which are coming into flower. There are also some fine specimens of *Camellia*, and *Cactus*, particularly the *Cactus speciosissima*, *truncatus*, and the choicer kinds,—and indeed the collection is general and well selected.

Mr Miller, Dorchester, an amateur gardener, who has a neat green-house, with choice collection of plants, as Geraniums, Ericas, and like, of the best and rarest kinds. In the green-house, I noticed a fine pot of pinks in flower, which is something rare at this season, and is the prettiest flower that can be put in the bouquet. Indeed Mr Miller is quite an amateur in *pinks*, and has from seed perhaps the best collection to be found.

It is gratifying to see some attention paid to this neat, pretty and fragrant family of plants, for, certain it is, that they are the prettiest

*It is much to be hoped that Mr Cowan will favor the public with a communication on his system of training and forcing the Peach, which would be rendering an essential service to many persons, particularly as the Peach is now fast depreciating in out doors culture, and if the seasons are not more propitious, must eventually be cultivated either on walls or peach-houses built expressly for it.

flower of their season, especially in the parterre, where it is hoped the *fair* patrons of the flower-garden will not miss the opportunity of introducing some of the best of Mr Miller's varieties in the planting season. E. S.

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## Art. IX.—*Notices of Plants Recently Described in Foreign Works.*

*Deutzia Scabra.* (*Rough-leaved Deutzia.*) Linnean Class and Order, Decandria Tetragynia. Natural Order, Philadelpheæ.—An erect, branching shrub, 4 or 5 feet high, with the whole of the young parts rough with minute starry pubescence. Branches cylindrical, or slightly angular, covered with a reddish brown bark. Leaves opposite, stalked, ovate, or ovate-lanceolate, acuminate, penninerved, minutely serrulate, with somewhat bristly ascending teeth; varying from 2 to 4 inches in length, and from an inch to an inch and a half, or even more, in breadth, grass green and scabrous on both surfaces with minute papillose bristles, especially on the veins, the under surface scarcely if at all paler. Petioles very short, 2 or 3 lines long, slightly compressed, united at the base into a ring, marked above with a narrow furrow. Flowers cymose. Cymes axillary, solitary, mostly 3-flowered, or disposed along a terminal axis, like a raceme, and then they are reduced to a single flower. Bractes opposite, linear-lanceolate, acute, entire, or sparingly denticulate, channelled, deciduous. Pedicels filiform, and as well as the calyx, copiously scabrous and canescent, with starry pubescence. Calyx the tube globose; limb urceolate, 5-lobed; lobes short, ovate, acute, pale green, erect and connivent. Petals 5, pure white, thrice longer than the calyx, oblong-lanceolate, somewhat acute, erect and slightly connivent, valvate in æstivation, the margins slightly induplicate, and erosely crenulate, especially towards the apex, sparingly clothed on the outside wih starry pubescence. Stamens 10, shorter than the corolla, outer five longer and opposite the calyx. Filaments flat, white, rather narrower towards the base, 3-toothed at the apex, the two lateral teeth, divaricately spreading, acute, compressed, the middle one erect, straight, subulate, bearing the anther. Anthers bright yellow, rounded-cordate, bilocular, the

cells short, parallel, turgid, opening lengthways, free at both extremities, and connected at the middle by a rather broad, green connectivum. Ovarium adherent, 3 or 4-celled, crowned by an elevated, fleshy, angular, orange ring, placed within the stamens. Ovula numerous, scobiform. Styles 3 or 4, free, slender, filiform, white, longer than the stamens, marked along the inside with a narrow, inconspicuous furrow. Stigmas clavate, green, oblique, viscid, and slightly channelled.

A very elegant shrub, native of Japan and China, and introduced from the latter country a few years ago by Mr Reeves, to whom our gardens are indebted for many other equally interesting plants from the same quarter. It is a plant of easy culture, being sufficiently hardy to endure our winters in the open air, and easily increased both by cuttings and layers.

The genus is nearly related to *Philadelphus*, but is readily distinguished by the induplicate æstivation of its corolla, definite stamens, with tricuspidate filaments, and free styles. The genus *Decumaria* differs only in its simple filaments and combined styles.

During the early part of summer, the *Deutzia* is covered by a profusion of white blossoms, which are highly fragrant. The rough leaves of the plant, Thunberg informs us, are employed by the Japanese cabinet-makers for polishing wood, in the manner that the stems of *Equisetum hyemale* are with us.

The genus was named by Thunberg in compliment to John Deutz, one of the senators of Amsterdam, a patron of Botany, and one of the promoters of the voyage of the former to Japan.

*Platystemon californicus.* (*Californian Platystemon.*) Linnean Class and Order, Polyandria Polygnia. Natural Order, Papaveraceæ. Platystemon.—Root fibrous, annual. Stem decumbent, branched, cylindrical, about a span high, thinly clothed, as well as the leaves, with long, slender, bristly, spreading hairs. Leaves opposite, or ternate, lorate, acute, 3-5-nerved, reticulately veined, connate at the base, 2 or 3 inches long, half an inch broad; upper ones linear-lanceolate. Peduncles solitary, one-flowered apparently axillary, but really terminal, filiform, 3 or 5 inches long. Sepals 3, or rarely 2, broadly elliptical, obtuse, concave, caducous, copiously clothed with bristly hairs. Petals 6, rarely 4, obovate, concave, many-nerved, slightly repand at the margin, of a pale straw color, furnished at the base with an orange spot. Stamens indefinite, shorter than

the petals. Filaments broadly winged, obcordate, membranous. Anthers attached by their base, linear, obtuse, rather longer than the filaments; cells parallel, opening lengthways, somewhat extrorse. Pistils numerous (12-18), mostly 14, siliquiform, torulose, combined together into a unilocular ovarium. Stigmas linear, compressed, erect, copiously papillose. Ovula reniform, from 4 to 6 in each carpel, and besides those inclosed there are others borne exteriorly on the inner angles, formed by the united edges of the carpels.

Among the more remarkable plants of the Californian Flora are several anomalous genera of the natural family of *Papaveraceæ*, one of which is the one before us, which in its structure holds an intermediate station between that family and *Ranunculaceæ*, agreeing with the former in its concrete ovarium, and oily albumen, and with the latter in the tendency to a quinary arrangement of its floral envelopes, somewhat extrorse anthers, and in the final decomposition of its pericarpium.

It is a hardy annual of considerable beauty, growing in any light loamy soil, and readily increased by seeds, which it perfects freely in the open border.

It is one of the many interesting discoveries of our lamented friend, Mr Douglas, to whom our collections are indebted for its introduction.

The generic name is compounded of *platus*, broad, and *stemon*, stamen, alluding to the dilated filaments.

*Baeria chrysostoma.* (*Golden-Anthered Baeria.*) Linnean Class and Order, Syngenesia Polygamia Superflua. Natural Order, Compositæ. Trib. 4. Senecionideæ. Sub-trib. 5. Helenieæ. Div. 3. Madieæ.—The whole plant clothed with adpressed hairs. Root fibrous, annual. Stems filiform, decumbent, branched, of a livid purple, varying from a span to a foot high. Leaves opposite, sessile, linear, obtuse, entire, ciliated, recurved and spreading, channelled above, green and hairy, from an inch and a half to three inches long, and from 2 to 3 lines broad, rather fleshy, the base connate into a short sheath. Capitula radiate, solitary, axillary, and terminal. Peduncles filiform, naked, hairy, 2 or 3 inches long. Involucrum hemispherical, biserial; leaflets ovate-oblong, rather acute, hairy, green, nearly equal, those of the inner series shorter and narrower. Rhachis elevated, pyramidal, ebracteolate, tuberculate. Rays from 10 to 13, female, spreading, elliptical-oblong, notched or

3-toothed, rarely entire, bright yellow, 7-nerved; tube slender, slightly compressed, glandular, swollen and rather spherical at the base. Florets of the disk hermaphrodite, funnel-shaped; tube filiform, glandular, pale yellowish green, swollen at the base; limb campanulate, 5-toothed, the teeth ovate, acute, spreading. Filaments slender, glabrous, distinctly articulated. Anthers bright yellow, semi-exserted, united into a tube, naked at the base, and crowned by an ovate acute appendage. Style filiform, glabrous; branches recurved, semi-cylindrical, each crowned by a semi-ovate, pointed, papillose appendage. Achenia uniform, obfusiform, slightly compressed, even, and rather scabrous. Pappus none.

A curious genus of *Compositæ*, raised from seeds received from M. de Fischer, director of the Imperial Botanic Garden at St. Petersburg, and recorded in the appendix to the catalogue of seeds of that Garden for 1835. It is a native of the Russian colony of Ross in New California, the nearly related genus *Callichroa* having been obtained from the same quarter.

The present genus is closely allied to *Madaria* of De Candolle, but differs in its perfectly glabrous rhachis, and in the whole of the florets being fertile, and the rays nearly entire.

The genus was dedicated by Fischer and Mayer to the late Professor de Baer of the University of Dorpat, and distinguished for his labors in comparative anatomy. The specific name alludes to the anthers being of a yellow color, and not black, as is the case in many genera of the same group.

*Clematis florida; var. Sieboldii. (Siebold's Flowering Virgin's-Bower.* Linnean Class and Order, Polyandria Polygynia. Natural Order, Ranunculaceæ. Clematis.—Stems slender, scandent, 5-angular, the younger branches finely hairy. Leaves triternately parted, the segments cordate and unequally 3-lobed; lobes ovate, acute, entire, ciliated, dark green and nearly glabrous above, paler, glossy and hairy beneath, reticulately veined, the two lateral lobes oblique with unequal sides, the middle one larger and more regular. Peduncles filiform, angular, finely pubescent, 4 or 5 inches long. Sepals 5, rhombeo-ovate, acute, attenuated at the base into a short claw, membranous, petaloid, of a greenish white, furnished with five nerves, which are approximated towards the centre, the veins dichotomously branched, two inches long, and about an inch broad at the middle, the sides partly deflexed. Petals disposed in many series,

cuneately lanceolate, or linear, rather acute, recurved and spreading, becoming longer and broader as they approach the circumference, varying from half an inch to an inch in length, attenuated towards the base, the margins reflexed, glossy, glabrous, the ground of a pale cream color, suffused with a rich purple. Ovaria numerous, copiously silky. Styles short, silky. Stigmas oblong, oblique, obtuse, glabrous, marked with a furrow on the anterior side. Torus scarcely one fourth of an inch long.

Our drawing of this splendid variety was taken from a plant which flowered in the collection of Messrs Osborn and Son, at Fulham, in June last. The plant is one of the valuable additions made to our collections by Dr Siebold, by whom it was introduced from Japan, of which interesting country he is now engaged in the publication of a complete account of the history, social state, and natural productions.

The present plant appears to have been regarded as a distinct species, but after a most careful comparison with the ordinary form of *C. florida*, we are satisfied of its being only a variety of that highly ornamental species. The leaves and branches are rather more hairy, and the petals are suffused with violet spots. No plant, however, possesses stronger claims to a place in the flower garden, from its graceful habit, and from the size and beauty of its blossoms.

The plant thrives best in a mixture of peat and loam, and is increased by layers.—*British Flower Garden.*

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## Art. X.—*Autumnal Woods.*

One of the first circumstances which strike us in looking at the autumnal woods, is the grouping and contrast of the colors. On one side we look into a swamp covered with the red flowering and white maples; the trees are detached and highly furnished with branches and there are no masses of foliage. But the leaves have caught the richest and most varied tints, so that we look at the swamp enclosed by the dark hills of evergreens, it seems like a gigantic flower garden, covered with the gaudiest plants of autumn. On another side we look at a more elevated meadow, decked with the scarlet foliage of the low whortleberry, and we might believe

the earth to be spread with a carpet of the costliest dye. Before us, an eminence crowned with oaks, whose dark green foliage has not received the mysterious touch, lies like a black summer cloud against the sky. Beside it, a summit covered with the deuse foliage of the maples, colored with every hue, rivals the golden clouds of the October sunset. In the farthest distance

> "The mountains that unfold
> In their wide sweep the colored landscape round,
> Seem groups of giant kings in purple and in gold,
> That guard the enchanted ground."

It would be well if the hint were taken from nature, in the planting of trees and shrubbery; so as to effect the richest grouping and contrast,— if the delicate straw-colored foliage of the beech, were made to contrast with the dark evergreen; and the scarlet maple, with the silver-leaved abele or poplar; and the crimson leaves and berries of the sumach, relieved the green and white of the snowberry,—the same regard for autumnal beauty, would banish the horse-chestnut and sycamore, and supply their places with the cleaner and richer beech and maple. It would place the moose-wood with its bright yellow leaves, and the sumach, and common whortleberry, with their scarlet and crimson foliage among the most approved ornaments of our shubberies.

Popular opinion attributes this change in the color of the foliage entirely to the frost. But the writers upon vegetable physiology, give another reason which we will attempt to explain. It is well known that the principal sustenance of plants, is the carbonic acid gas which they derive from the water which the roots imbibe. This gas is composed of carbon and oxygen. The effect of light upon the leaves of the plant, is to separate the oxygen which is in the carbonic acid. During the day, therefore, the oxygen is constantly passing off, the carbon being in the leaf. The carbon is of a dark blue color, and combining with the yellow tissue of the leaf, gives its green color. Oxygen is also received into the plant directly as well as in combination with the carbon.— But the oxygen can only escape by day: when therefore the nights grow longer than the days, the leaves receive more oxygen than they can discharge. The superabundance of the oxygen destroys the green coloring of the carbon and dyes the leaf with other various hues. The fact that

oxygen gives various colors to the metals, adds probability to this theory. It is probable that the frost has some influence as well as the length of the nights, by closing the pores of the leaf and thus preventing the escape of the oxygen.

This beautiful coloring of the foliage is peculiar to the American forests. Foreigners think it the most striking circumstance in our scenery. This is probably owing to the greater purity of our climate, on which account a greater supply of oxygen is furnished; and to the suddenness of the frosts by which the escape of the oxygen is prevented. The hues are more beautiful in some seasons than in others, and more varied in the interior than on the seaboard, which is owing to the difference of the climate.

It would be an object to reside upon the Connecticut river, or in Vermont, if for no other reason than to enjoy the splendid spectacle of those noble rounded hills, clad to their summits with trees of every hue. But in every part of our country, there is enough of beauty to make this season, to those who will go abroad and enjoy it, the most cheerful period in the year.— Autumn is not with us the melancholy season which English poets have described. Every thing here is glad and joyous. The air is pure, and the sky unclouded, except by those golden masses which give to the setting sun beauty. The birds returning from their northern summer haunts, stop awhile in the fields and gardens to bid us adieu; and the leaves of the forests, though soon to fall, instead of wearing the saddened habiliments of decay, like the dolphin, give token of their coming death, by putting on their gayest and brightest tints.— *Portsmouth Journal.*

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## Art. XI.—*Miscellaneous Matters.*

Early Vegetables.— Every one has observed that when lettuce seed gets scattered upon the ground in the fall, and lies in the earth during the winter, it will be up earlier, and come to maturity sooner, than where the seed is sown in the spring, be it done as early as it may. The only objection to sowing in the fall, is, the ground becomes so hard, that, although the seed comes up quickly, the plant never grows so thriftily, nor becomes so large and grateful to the palate, as when the earth has been mellowed

after settling in the spring. The same is the case with parsnips, onions, radishes, and many others.

Now, to obtain the benefit of fall sowing; and, at the same time, avoid the counteracting circumstance of the ground becoming hard, I would propose that the seed be placed in a small bag, and buried slightly, in some safe place, till spring, when, as soon as the ground is fit to work, prepare a spot for their reception; this being done, dig them up and plant them. The seed, by lying in the ground, evidently undergoes a preparatory process, essential to a quick and healthy germination, not to be obtained in any other way. What this process is, I am not fully prepared to state; though probably it consists in the absorption of the oil that the seed contains, rendering every part of it susceptible of being acted upon by the moisture of the earth, and thereby fitted to spring quickly into life, on feeling the warmth communicated by the April sun.

It is important to have seed of any kind come up quickly after it is sown, that it may get a start in advance of the weeds, which draw away the nutriment essential to a thrifty plant, and by being first up, choke and retard its growth. Take onions, for example, which are generally three or four weeks coming up: now if they can be made to come in one, we shall thereby obtain an absolute gain of two weeks on the weeds, which, if it should not save once hoeing, it will certainly render the first hoeing less difficult and tedious.

I have witnessed two instances, where seeds have lain over winter in the ground, which fully corroborates what I have been stating.

I had occasion to dig a trench 18 or 20 inches deep late in the fall, into which I threw a parcel of radish tops, filled with seeds, which were afterwards covered up to the full depth of the trench dug. In the spring, I had this same ground spaded up so deep, that many of the radish seeds were again brought to the surface; on this I planted beet seed. In two days after the ground was thus prepared, the radish seeds had germinated, and made their appearance, and continued to grow the most luxuriantly of any that I ever saw. The other instance strikingly illustrates the benefits of thus disposing of seeds during the winter. It was the following: After having prepared some ground for parsnips, and planted them in the usual manner, I came across a bunch of seed,

where an ungathered top of a seed-parsnip had accidentally got covered up, and lain through the winter. Of this, I gathered up a handful, and threw it broad-cast upon the ground I had previously planted. In four or five days, this last seed came up and grew to be several inches high, before the first planted was out of the ground, which was as many weeks in coming up, as the other had been days. Here, though accidentally, a fair experiment was made, and positive proof of the advantages to be derived, obtained. There are many other kinds of seeds, which I am fully convinced, may be kept and prepared in the same way for early germination, with equally beneficial results. I shall test the experiment more extensively this winter with different kinds, and whether the result prove successful or a failure, your readers shall be informed in the spring.

WM. WETMORE.

*Stow, Ohio, Aug.* 1837.

The following extracts are taken from a brief sketch of Fishkill Landing, a flourishing village on the east bank of the Hudson, in Duchess county, N. Y. about 68 miles from New York city, and 8 from West Point.

"Horticulture in this place is beginning to receive assiduous and praiseworthy attention. Many elegant and spacious gardens are very successfully cultivated already; and contain, in rich variety, valuable collections of the most splendid exotics. The superb Mexican tiger lily, the variegated gladiolus, and the beautiful dahlias of the most charming colors, are among the finest ornaments of any garden; but, in the delightful places of resort about the Landing, it is no uncommon occurrence to find them in company with numerous others of equal, if not greater pretensions to admiration."

"The verdant and shady forests, on the confines, consist principally of tall, straight and stately trees, eminent for both beauty and symmetry. The ground from which they spring, is seldom encumbered with brush or bushes; but finely o'erspread with grassy carpet, and richly adorned with myriads of gay flowers. The beautiful genera, neottia, lobelia, and aster, are nearly complete in the small compass of a few furlongs; while numberless specimens of others equally pleasing may be identified by the botanist, in the immediate environs. These charming forests, during the mild season, are frequented by more than one hundred species of terrestrial birds; which, for elegance of plumage, sweetness of song,

singular habits, and exquisite flavor, peculiarly invite the careful attention of the ornithologist, and the ardent zeal of the sportsman. The various secluded pools and sedgy waters, also afford, in spring and autumn, upwards of thirty species of aquatic fowl; as beautiful, flavorous and palatable, as can be found anywhere in North America. No country upon the globe, in an equal number of species, includes more specimens possessing higher claims to beauty and admiration. Trochilus colubris, certhia maculata, loxia rosea, and tanagra rubra, are justly esteemed, wherever known, for their most splendid colorings; while fringilla cyanea and turdus rufus, are no less prized for wonderful variations of note, and sweeetest vocal powers. Among aquatic tribes, no individual can be found richer in its tints or more varied in its plumage than anas sponsa. This beautiful duck is of late, far from being common; but now it may be occasionally seen dipping its brilliant, azure wing in the glittering waters of the Hudson, or rising from among woody retreats that abound along its shores.—*Poughkeepsie Journal.*

"ALL NATURE DIES TO LIVE AGAIN." — Cold and cheerless winter advances with threatening aspect; vegetation shrinks at his approach, and perishes in his icy embrace! The pleasures of the walks have ceased for the season; the trees are stript of their foliage; the wide-extended heath looks dreary, and the traveller cowers to the beating storm, as he hastily measures his tiresome way. Summer's sweets and autumn's pleasures are no more! To the green-house we must now resort to view the beauties of the rose and lily, or to inhale their odors. At this inclement season it is natural to think of the suffering poor — the desolate aged man or woman, the forlorn widow, the helpless orphan. Winter, while it adds to their wants, cuts off many of their little resources for supplying them. They mark its approach with dismay, and their hearts almost wither when they ask themselves whence food, and fuel, and houserent are to come "in these hard times." Their life, ever the type of winter, when the buds of hope spring not, and the flowers of joy bloom not, and the fruits of contentment are not yielded, is now embittered by the reflection that the past season has not allowed them to lay up even their ordinary scanty store. To seek out and comfort these is a duty the discharge of which will be followed by a satisfaction which the mere passive enjoyment of the

bounty of Providence cannot impart. Witnessing and ministering to the wants of this portion of our fellow men, our own perplexities will sink into insignificance, and we shall feel how truly better it is to give than to receive.

Fruit Nurseries.—The increase of these repositories of young fruit trees, we hail as a proof that our farmers are beginning to tire of the worthles trash with which many orchards are filled, and are willing to be at some trifling cost to procure trees of first rate excellence, and ripening at different times. Some farms have good fruit, but no variety of succession. A few days and a few dollars, spent each year by our farmers, or the dwellers in our cities and villages, would materially add to the beauty of their respective residences, and enhance the value of their properties.

Small fruit trees should be secured by stakes, especially those that are very low and limber, else they will be likely to be broken down by snows. Sometimes the snow is three or four feet deep and becomes wet and then frozen in a solid mass, so that when it settles in the spring it will break down tender trees unless they are well secured. In setting stakes by trees it is necessary to set them a little distance from the but of the tree, lest the roots be broken or disturbed in the operation. If the tree be very slim it should be tied to the stake as high up as the deepest snows usually come, and it may be well to tie such trees to stakes in several places. A few minutes' labor will save a tree that otherwise might be destroyed, which in a few years may afford an income of several dollars yearly.

Officers of the Massachusetts Horticultural Society.—The following officers and committees were elected at the annual meeting of this Society in October last.

*President*—Elijah Vose, Dorchester.

*Vice Presidents*—Enoch Bartlett, Roxbury, Jonathan Winship, Brighton, Theodore Lyman Jr., Boston, John Prince, Roxbury.

*Treasurer*, Samuel Walker, Roxbury.

*Corresponding Secretary*, Robert Treat Paine, Boston.

*Recording Secretary*, Ezra Weston, Jr. Boston.

*Counsellors*—Augustus Aspinwall, Brookline, Thomas Brewer, Roxbury, Henry A. Breed, Lynn, George W. Brimmer, Boston, Joseph S. Cabot, Salem, E. Hersey Derby, Salem, N. Morton Davis, Plymouth, Nathaniel Davenport, Milton, Thomas G. Fessenden, Boston, David Haggerston, Watertown, Joseph G. Joy, Boston, William Kenrick, Newton, John Lemist, Roxbury, William

Lincoln, Worcester, Thomas Lee, Brookline, Charles Lawrence, Salem, William Pratt, Jr. Watertown, Benjamin Rodman, New Bedford, Samuel A. Shurtleff, Boston, M. P. Sawyer, Boston, Jacob Tidd, Roxbury, Charles Tappan, Boston, Aaron D. Williams, Roxbury, Jonathan Winship, Brighton, William Worthington, Dorchester, Thomas Whitmarsh, Northampton.

*Professor of Botany and Vegetable Physiology.*—Rev. John L. Russell.

*Professor of Entomology.*—T. W. Harris, M. D.

*Professor of Horticultural Chemistry.*—J. W. Webster, M. D.

### Standing Committees.

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| Robert Manning, | P. B. Hovey, Jr. |
| Samuel Downer, | L. P. Grosvenor, |
| Benj. V. French, | J. L. L. F. Warren, |
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*Committee on the products of Kitchen Garden.*

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*Committee on Finance.*

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|---|---|
| E. Vose, Chairman, | L. P. Grosvenor. |
| B. V. French, | |

## CLOSE OF THE SECOND VOLUME OF THE HORTICULTURAL REGISTER.

The close of the present volume brings fresh to our mind the irreparable loss the Public as well as ourselves have sustained, in the sudden death of Thomas G. Fessenden, Esq., the senior editor, and with whom it has been our privilege to be associated. Having passed a life of usefulness, he rests from his labors. His name will be handed down to posterity as one of the benefactors of his country, and will live in the history of the improvement and progress of Agriculture in the present age.

During the present year we have passed through a season of unparalleled pecuniary distress in the commercial world, which has very sensibly affected a respectable class of our patrons, and as a natural consequence some have withdrawn their patronage: but at the same time others have stepped forward and supplied their places, so that our subscription list remains about the same. We were in hopes to have received a large accession of subscribers, which would have enabled us to add some embellishments. At the low rate the work is furnished we find it impossible, without doing injustice to ourselves, to do this at present. With the symptoms of returning prosperity, we have reason to believe there will be a revival in horticultural pursuits. With the hope that we shall receive more encouragement the year which is soon to commence, we shall venture to proceed with our labors.

With the assistance we expect to receive from a number of practical men, we hope to make the Horticultural Register useful and interesting. It is our desire, however, to have more aid afforded us by connoisseurs and amateurs in the science and art to which our publication is devoted. We take this opportunity to tender our grateful acknowledgments to those who have favored us with communications, and solicit a continuance of them.

To our patrons, especially those who have obliged us in a season so trying as the last, with prompt pay, we feel peculiarly grateful. Those who are still in arrears, we suppose, have forgotten the subject: to them we wish to say that the amount due would be acceptable.

*Boston, Dec.* 1, 1837.

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